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ABSTRACT

This study presents data from a study of effects of fathers' alcohol dependence on family functioning and child development. Alcoholic families were recruited from the population of males who had been convicted for driving while impaired or driving under the influence of alcohol, who lived in an intact family, and who had a biological son between 3 and 6 years of age. Of particular interest was the interrelationship among parental cognitive and neuropsychological functioning, perceived problems with the child, and the child's ability to delay gratification. Measures included two subsets of the Wechsler Adult Intelligence Scale-Revised, the Achenbach Child Behavior Checklist, and the Block & Block delay of gratification task. Results revealed a clear and consistent relationship between level of parental cognitive functioning and children's problem behaviors and ability to delay gratification. Fathers higher in cognitive functioning experienced fewer problems with children. Cognitive functioning of both parents was positively related to children's ability to delay gratification. It was suggested that fathers higher in cognitive functioning may have a more realistic expectation of their son's behavior or have sons who are less problematic, whereas mothers' perceptions are dependent on influences other than cognitive functioning. Parental cognitive functioning may affect the child's ability to delay gratification. (Author/RH)

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Parental Intelligence Related to Delay of Gratification and Behavior Problems in Three-year-old Sons of Alcoholics

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Abstract

This study presents data from the first wave of a longitudinal study on family development that examines the effects of the father's alcohol dependence upon family functioning and child development. Alcoholic families are recruited from the population of males convicted for driving while impaired or driving under the influence of alcohol, who are currently living in an intact family, and who have a biological son between the ages of three and six. We focused on the interrelationship among parental cognitive and neuropsychological functioning, perceived problems with the child, and the child's ability to delay gratification. Measures included two subsets of the WAIS-R (information, digit span; Wechsler, 1981), the symbol digit modalities test (SDMT; Smith, 1982), the Achenbach Child Behavior Checklist (Achenbach, 1978a, 1978b), and the delay of gratification task (Block & Block, 1980). Results showed that fathers higher in cognitive functioning experienced fewer problems with their children. There was no relationship among these measures for mothers. Both parents' cognitive functioning was positively related to the child's ability to delay gratification. It was suggested that fathers higher in cognitive functioning may have a more realistic expectation of their son's behavior or have sons who are less problematic, whereas mothers' perceptions are dependent on influences other than cognitive functioning. It was also suggested that directly, or indirectly, parental cognitive functioning may affect the child's ability to delay gratification.

A wide variety of clinical and empirical studies on children of alcoholics describe the numerous difficulties these children experience with interpersonal relationships, antisocial tendencies, impulsivity, and intellectual development. Although only 30-50% of the children of alcoholic parents develop alcohol problems as adults, they still become alcoholic eight times more frequently than do children from non-alcohlic parents ts develop alcohol problems as adults. Thus, having an alcoholic parent greatly increases risk, even though they all do not have alcohol problems in adulthood, nor do they all expereience significant problems during childhood. Although recognition that experiences of infancy and early childhood provide a foundation for subsequent alcoholism and alcohol related problems, relatively little clinical or empirical attention has been given to the etiological significance of the first few years of life for such pathology. The current longitudinal study was designed to meet this deficit.

The present report presents preliminary findings focusing on parental cognitive functioning from the first wave of data collection of the msu family study. Much research attests to the impaired cognitive performance associated with extended and/or chronic alcohol use. The child development and cognitive literatures can attest to the strong relationship between parents' intellectual functioning and that of their children. Moreover, Tarter, Jacob, and Bremer (1989) have shown that young sons of alcoholic fathers performed more poorly than 2 control groups on tests of cognitive ability, impulse control, and attention. Our purpose, at the present time, is to document the relationship between level of parents' cognitive functioning, the child's ability to delay

gratification, and the extent to which behavioral problems are manifested. We were particularly focused on the relationship between the parental level of cognitive functioning and the child's ability to delay gratification. Recently, Michel, Shoda, and Rodriguez (1989) pointed out that research has shown the child's ability to delay gratification during the preschool years is predictive of academic and social competence, and coping skills in later life. Although many factors may account for this relationship we expected that parental cognitive functioning would be related to the child's ability to delay gratification. Over time, we expect to examine more fully the effects of parental alcohol involvement on the relationships between family cognitive functioning and children's behavior.

Method

Subjects.

Alcoholic families are recruited from the population of males convicted for driving while impaired or driving under the influence of alcohol. The specific recruitment population is all males convicted of these offenses, who register blood alcohol concentrations of 0.15% (150mg/100ml) Or higher when arrested, who are currently cohabitating or married, living in an intact family, and who have a biological son between the ages of three and six. (The final longitudinal sample will consist of 90 target families and 90 community comparison families). Experience with this group shows that virtually all fathers who meet our conditions will meet standard research diagnostic criteria for a diagnosis of either "definite alcoholism" or "probable alcoholism" with over 80% meeting the "definite" level and also meeting dsm-iii criteria for alcohol dependence. Although recruitment into the study depends upon

father's alcohol related problems, data collection involves all members of the nuclear family unit. The present study focuses on those families whose son was three years old at the initial data collection visit.

Measures and procedure.

Two subsets of the WAIS-R (information, digit span; Wechsler, 1981) were administered to each adult, along with the symbol digit modalities test (SDMT; Smith, 1982). The SDMT is used to evaluate cerebral dysfunction and allows for a crude evaluation of long-term cognitive impairment as the result of alcohol or other drug ingestion. Parents independently complete the Achenbach Child Behavior Checklist (Achenbach, 1978), an instrument that yields standardized scores on social competency, two broad subscales concerning externalizing and internalizing psychopathology, and eight narrow band subscales (social withdrawal, depressed, immature, somatic complaints, sex problems, schizoid, aggressive, and delinquent).

The primary drinking variable used in the current study is a composite measure designed to assess differences in the extent of drinking problems for a respondent's life course. The specific measure, the lifetime alcohol problems score (LAPS; Zucker, 1988), is a multiple index composed of three weighted sets of information about drinking. (The sets are derived from information gained from the administration of the drinking and drug history and the diagnostic interview schedule.)

Children are given the delay of gratification task (Block & Block, 1980) to evaluate the child's ability to delay gratification. Subsequent to the child's intellectual assessment, the child is thanked for his or her participation and told that they can have a present. As the present is being shown, the examiner apologizes and says there is one more task

that must be completed. The toy is set aside, but placed in view and reach of the child. The child is shown a complex block design task (design #11, WISC-R) and is told that the task must be completed before he can have the present. The task involves a maximum 5 1/2 minute delay period (four minutes of task time and 90 seconds of posttask delay). Child verbal comments, looks, touches, reaches, in relation to the toy, are recorded. The session is ended prior to the maximum time period if the child takes the gift. The score is the number of seconds the child waits before opening the present; time from the beginning of the task assignment).

Results

Parents' IQ was prorated on the basis of their WAIS-R scores. Correlations were computed between WAIS-R scores, IQ, LAPS and perceived problems with the child, for both parents. There was no significant relationships between mothers' and fathers' LAPS. Parents' IQ was significantly correlated [$r(11) = .74$, $p < .01$], as were their ratings of the child for immaturity [$r(13) = .47$, $p < .05$], but not for social withdrawal nor total problems. The correlations between cognitive and neuropsychological measures showed moderate to high inter-relatedness for both parents (mother's range: .38 to .99; father's range: .34 to .81].

As expected, for both parents positive relationships between level of cognitive functioning and the child's ability to delay gratification were found; for mothers, delay of gratification was related to the estimated IQ [$r(12) = .45$, $p < .07$], and to their scores on the WAIS-R verbal IQ measure (the information subset) [$r(11) = .61$, $p < .05$]. For fathers, WAIS-R verbal IQ and delay of gratification [$r(10) = .49$, $p < .07$] were also positivity related.

Father's extimated IQ was negatively related to the child's total number of problems [$r(10) = -.53$, $p < .05$], social withdrawal [$r(10) = -.56$, $p < .05$], and immaturity [$r(10) = -.59$, $p < .05$]. In addition, there was a significant negative relationship between he father's WAIS-R verbal IQ and their report of the child's total number of problems [$r(9) = -.63$, $p < .05$], and level of social withdrawal [$r(9) = -.63$, $p < .05$)]. The father's level of performance IQ (the WAIS-R digit symbol subtest) was also negatively correlated with immaturity [$r(11 = -.57$, $p < .05$)]. There were no significant relationships between the mothers' cognitive measures and their ratings of their child's problems.

Finally, father's LAPS was related to the child's social withdrawal [$r(13) = .50$, $p < .05$] and immaturity [$r(13) = 41$, $p < .08$].

Discussion

The results revealed a very clear and consistent relationship between level of parental cognitive functioning and children's problem behaviors and their ability to delay gratification. For both parents functioning was positively related to the child's delay of gratification. The higher the parents' cognitive functioning the longer the child delayed gratification. Although no causal inference can be made at this point it is impossible that the child's delay caused the parents' cognitive performance. The two most plausible explanations are a direct path, wherein parents who are higher in cognitive functioning guide their children against impulsivity; providing the kind of early modeling that is conducive to the acquisition of self control and/or cognitive skills. An indirect path model suggests that higher functioning parents have higher functioning children and the child's level of functioning controls his impulsivity (cf. Mischel et al., 1989).

Fathers, but not mothers, demonstrated a strong negative relationship between their level of cognitive functioning and the problems they experienced with their sons. Perhaps fathers' higher in cognitive functioning are more likely to attribute their sons' behavior to expected age norms, or to a transient stage of behavior, and are less likely to label these behaviors as problematic. In contrast, fathers lower in cognitive functioning may have precocious expectations for their sons' behavior and subsequently label age-appropriate behaviors as problematic. It is also reasonable to consider that lower functioning fathers have sons' who are indeed more problematic. Of note was the finding that mothers' cognitive functioning was not related to their perception of problems. It would appear that mothers' perceptions are dependent on other influences that might include their level of interaction with their sons, or other children of the same age.

Finally, fathers' LAPS scores were positively related to their perceptions of their sons' social withdrawal. This perception could be real, such that infant sons do withdraw from their fathers when they have alcohol problems. On the other hand, the father may expect his son to be gregarious, judging him by standards of social behavior influenced by alcohol, and perceive the son to fall short of this expectation.

Overall, we are encouraged by the results to continue a focus on the child's self-control (delay of gratification) and problematic behaviors as related to the parents' level of cognitive functioning.

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